



**biomedicines**



*Special Issue Reprint*

## Neurotrauma

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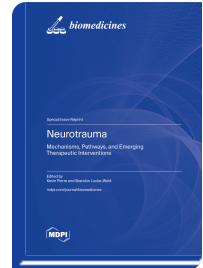
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This Reprint presents eight peer-reviewed studies on the pathophysiology and treatment of neurotrauma. The collection addresses traumatic brain and spinal cord injuries through both mechanistic investigations and clinical applications. Its topics include the following: the effects of subanesthetic ketamine on stress hormones and synaptic density following mild traumatic brain injury; mesenchymal stem cell-derived exosomes as a potential regenerative therapy; selective COX-2 inhibitors for neuroprotection; monoclonal antibody therapies targeting post-traumatic inflammation; the implementation of artificial intelligence in traumatic brain injury management, along with its associated ethical considerations; diagnostic challenges in traumatic encephalopathy syndrome; cellular mechanisms underlying clinical outcomes in neurotrauma; and neurophysiological evidence that unilateral brachial plexus injuries affect bilateral neural transmission. The research methodologies presented in this Reprint range from rodent models to clinical neurophysiology, encompassing molecular pathways, imaging techniques, biomarker development, and therapeutic strategies. These contributions document current understanding of primary and secondary injury cascades—including inflammation, oxidative stress, and excitotoxicity—while evaluating interventions aimed at neuroprotection and regeneration. The compilation is intended to serve as a useful resource for researchers and clinicians working to improve outcomes for the millions of individuals who are affected annually by neurotrauma.



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